

**ADVISORY COMMITTEE ON FISHERIES RESEARCH**

**Report of the**

---

**WORKING PARTY ON  
STATUS AND TRENDS OF FISHERIES**

**Rome, 30 November-3 December 1999**



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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
Rome, 2000



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ISBN 92-5-104501-1

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## **PREPARATION OF THIS REPORT**

This is the final report approved by the Advisory Committee on Fisheries Research (ACFR) Working Party on Status and Trends of Fisheries.

### **Distribution:**

Members of the Committee  
Members of the Working Party  
Other interested nations and international organizations  
FAO Fisheries Department  
FAO Regional Fishery Officers

Advisory Committee on Fisheries Research.

Report of the Working Party on Status and Trends of Fisheries. Rome, 30 November - 3 December 1999.

FAO Fisheries Report. No. 616. Rome, FAO. 2000. 16p.

### ABSTRACT

The Advisory Committee on Fisheries Research (ACFR) at its First Session proposed as a priority the establishment by FAO of a Working Party on Status and Trends of Fisheries to: (a) evaluate data needs for status and trends reporting on a global scale on marine fisheries and propose a common template of essential information elements; (b) propose arrangements for the involvement of regional fishery bodies and non-FAO experts in a consensus-seeking process for assembling, reviewing and disseminating fishery status and trends information (including reporting to COFI), and (c) advise on the relationship between FAO's data collection and status and trends reporting programme and the Living Marine Resources module of the Global Ocean Observing System (LMR-GOOS). This is the report of the first meeting of the Working Party which met in Rome from 30 November to 3 December 1999.

Owing to the importance of status and trends reports, and the scrutiny they receive, the Working Party recommended that the global system of status and trends reporting be advanced by: (a) increasing completeness by including some fisheries and fishery resources that are currently under-represented; (b) expanding the scope of current reports which are primarily on catch and fishery resource information to include other dimensions of fisheries (e.g. reports on economic and social aspects), and (c) enhancing quality assurance and credibility. The Working Party endorsed FAO's recent development of an advanced Web-based fisheries information system for status and trends information (currently referred to as FIGIS) as a critical tool for advancing status and trend reporting.

The Working Party recommended that a draft International Plan of Action to advance status and trends reporting on world fisheries should be prepared, which would include: (a) steps to complete development of a status and trends information database; (b) capacity building and arrangements for using FIGIS; (c) development of cost-effective methods for acquiring and validating information on the status and trends of small-scale fisheries and multispecies fisheries; (d) an inventory of world fisheries and stocks; (e) priority for expanding the scope of status and trends reporting; (f) appropriate partnership arrangements with existing regional bodies, and other entities; (g) identification of needs and opportunities for new regional arrangements where appropriate arrangements do not now exist; (h) practical guidelines for quality assurance, and (i) the role of local, regional, and global scientific working parties as a vehicle for status and trends reporting, capacity building, and quality assurance.

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## INTRODUCTION

1. A meeting of the ACFR Working Party on Status and Trends of Fisheries was held from 30 November to 3 December 1999 at FAO Headquarters, Rome. It was attended by thirteen members of the Working Party, the Secretaries of three FAO regional fishery bodies, the Chairperson of the Advisory Committee on Fisheries Research (ACFR) as well as FAO staff.

2. The Director of the FAO Fishery Resources Division, Mr S. Garcia, opened the meeting on behalf of Mr D. Harcharik, Officer-in-Charge, Fisheries Department. He informed members that they had been appointed for two years in their individual capacity in recognition of their expertise in the subject of the Working Party and their experience with the workings of regional fishery bodies or international organizations concerned with status and trends reporting for fisheries.

3. Mr Garcia explained the background to the meeting. The First Session of ACFR (Rome, 25-28 November 1997) had identified research topics that needed to be emphasized in the future in order to fill critical scientific gaps. One such area was fishery status and trends reporting. ACFR recognized that there was a "high demand for such information from policy-makers, environmentalists who are increasingly concerned about fisheries, and the public". However, the Committee believed that current fishery status and trends reporting by FAO relied too heavily on traditional catch and trade statistics, whereas "there is a critical need for data relevant to fleet capacity, participation in fisheries, economic performance and distribution".

4. Another critical element of the research need identified by ACFR concerning statistics and status and trends was for the "design of quality criteria and quality assurance protocols". As planning for a Living Marine Resources (LMR) module of the Global Ocean Observing System (GOOS) gathered momentum, ACFR advised that it was particularly important that FAO prepared itself with a scientifically based plan for improving data collection and assessments of status and trends reporting for fisheries using a multifaceted approach which could benefit from more formal processes to involve regional fishery bodies (both FAO and non-FAO) and individual experts. ACFR stated that a multifaceted approach was needed including: (a) an evaluation of the types of data and assessments that were needed by researchers and policy makers; (b) development of data collection mechanisms and design of a data management system; (c) establishment of a national commitment to provide data, and (d) arrangements for involvement of regional fishery bodies, and non-FAO experts in a consensus seeking process for conducting assessments of status and trends.

5. As a mechanism to provide leadership on this, ACFR further proposed as a priority the establishment by FAO of this Working Party on Status and Trends of Fisheries. The Working Party would report to the Second Session of ACFR. The terms of reference for the Working Party were to:

- a) Evaluate data needs for status and trends reporting on a global scale on marine fisheries, including fishery resources, fishing fleet capacity, participation in fisheries and economic performance, and propose a common template of essential information elements which could be used by the main providers of status and trends reports;
- b) Propose arrangements for the involvement of regional fishery bodies and non-FAO experts in a consensus-seeking process for assembling, reviewing and disseminating fishery status and trends information (including reporting to COFI);
- c) Advise on the relationship between FAO's data collection and status and trends reporting programme and the Living Marine Resources module of the Global Ocean Observing System (GOOS); and
- d) Report on these to ACFR.

6. The Technical Secretary conveyed apologies from the North Pacific Marine Science Organization (PICES) and the Parties to the process for the establishment of the Southeast Atlantic Fisheries Organization (SEAFO) for their inability to participate in the meeting.



7. The Working Party adopted the Agenda which is shown in Appendix A. The documents before the Working Party are listed in Appendix C.

8. The Working Party appointed Mr S. Garcin and Mr M. Sissenwine as Co-Chairpersons. Mr R. Grainger and Mr D. Evans, from the FAO Secretariat, served as rapporteurs.

## **CURRENT STATUS AND TRENDS REPORTING BY FAO, REGIONAL FISHERY BODIES AND OTHER ORGANIZATIONS**

9. The Secretariat introduced this item on the basis of documents ACFR/STF/99/2, 3 and Inf.5. The objective of this agenda item was to review current fishery status and trends reporting, appraise the strengths and weaknesses and identify elements which could be built upon for improved future reporting. For FAO reporting, the Code of Conduct for Responsible Fisheries provided a framework for the conduct of capture fishery and aquaculture against which FAO appraised global fishery status and trends and reports on these through its biennial report on the State of World Fisheries and Aquaculture (SOFIA), world resource reviews on inland, marine and aquaculture resources, reports to the United Nations General Assembly (UNGA), recent initiatives on the assessment and monitoring of fishing capacity, and structured information on stock assessment methods and results as provided in POPDYN (an FAO database of stock assessment parameters and results).

10. Status and trends reporting was also undertaken by other international organizations including regional fishery bodies and national agencies. Reporting at these different levels should fall within a pyramid-like structure with synthesized global reporting at the global level accurately reflecting the more detailed reporting at the regional level which, in turn, should be consistent with national and local reporting. The great challenge was to maintain information integrity and value during the process of aggregation and synthesis to higher levels.

11. All status and trends reporting was receiving more attention and provoking more debate among interest groups. At the global level, FAO's analyses were widely cited and sometimes re-interpreted by many different interest groups with very different perspectives. However, three main areas of improvement have been identified. Firstly, there was a need to improve transparency in the way the reports were prepared, and in the sources of information, as well as in the extent to which non-FAO expertise was involved. Secondly, the quality of the data and information upon which the reports were based should be more easily assessed. Thirdly, the subject scope of the reporting needed to be broadened with the current emphasis on the state of fishery resources extended to economic and social aspects including fishing capacity.

12. The question of the reliability of the fishery statistics compiled, checked and distributed by FAO was raised. The quality of country data submission was highly variable and there were serious doubts about reliability for some countries, but very often this was difficult or impossible to substantiate due to the absence of alternative information. Food balance sheets incorporating catch and trade statistics could sometimes reveal major inconsistencies at the national level, particularly when there were alternative fish consumption data available (e.g. from food consumption surveys). Where regional fishery organizations existed, there was usually a much better chance of obtaining data which had been subjected to some, even basic, screening. It was noted that data quality varied significantly depending on sources and methodologies employed, and explicit classification of data according to level of quality might be needed in future.

13. It would be valuable to report on the reliability of estimates of stock status, based both on confidence intervals at the time estimates were made and on retrospective analysis of estimates.

14. It would be valuable to characterize fisheries management and its effectiveness by reporting on:

- the type of management measures employed by the management authority;
- the scientific advice given and management actions taken; and
- the response of fishery resources and of fishery performance to fishery management.

15. As regards preparation of the FAO marine resource reviews, the standard presentation for all regions masked the fact that the information available was highly variable among regions. In general the information came from regional fishery organizations and working groups as well as from published or "grey" literature. For some regions information was obtained from trusted scientists who provided information in confidence and sources could not be stated.

16. The decline of the FAO field programme, together with reductions in national funding for data collection and resource evaluation, had caused a deteriorating situation at all levels of fisheries information in recent years, just at a time when the demand for fishery status and trends information was increasing rapidly. Often national commitment to support this was not sustained. Many fisheries had inadequate or no formal management or governance, and this was particularly true for small-scale fisheries. Occasional assessments of such fisheries every few years or even expert opinion based on qualitative observations might be the only option available for obtaining information on status and trends of fishery resources.

17. Descriptions were provided of status and trends reporting and the constraints experienced in several regional fishery bodies, including the Asia-Pacific Fisheries Commission (APFIC), Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Permanent South Pacific Commission (CPPS), General Fisheries Commission for the Mediterranean (GFCM), International Commission for the Conservation of Atlantic Tunas (ICCAT), International Council for the Exploration of the Sea (ICES), Indian Ocean Tuna Commission (IOTC), Northwest Atlantic Fisheries Organization (NAFO), South Pacific Commission (SPC) and Western Central Atlantic Fishery Commission (WECAFC). Many of the problems experienced were the same as at the global level, including missing or incomplete catch data and very poor species catch composition information. There was a major need to create an awareness of the need to monitor fisheries and resources.

18. Data needs were expanding with the inclusion of ecosystem, social and economic considerations in addition to those of fishing capacity and fisheries governance. In many circumstances data collection could not satisfactorily meet traditional demands, let alone be extended to these additional aspects.

19. It was concluded that there were opportunities for new arrangements for status and trends reporting with broader involvement and shared responsibilities which would more systematically synthesize and collate national and regional information into global reports. Assessments using available data should be supplemented through the harnessing of local knowledge and qualitative information. This was an ambitious undertaking which would require commitment and compromises as well as the involvement of more experts with local knowledge and more working groups at the regional and global levels.

## **DATA NEEDS AND AVAILABILITY**

20. The Secretariat introduced this item referring to documents ACFR:STF/99/Inf.3 and Inf.4. The objective for this agenda item was to consider how the gap between data needs and data availability could be bridged. Analyses at all levels were constrained by the availability and quality of data, and while concerns about data quality were often expressed when the results of the analyses were reported, the analyses rarely took account of uncertainty in any systematic way. Many regional fishery bodies were looking at ways in which uncertainty could be considered more systematically, particularly in relation to application of the precautionary approach.

21. Information on status and trends of fisheries was lacking for many areas, or if data were available they might be limited to aggregated catches. This was why FAO in its Resource Reviews, for example, started by looking at catch trends as this could be done for all regions (albeit with concern about data quality in some cases) and then summarized available information on the state of resources, which in some cases was very limited. Information on fishing capacity, fishery performance, characteristics of governance systems, catch composition in multispecies fisheries, ecosystem status and other aspects was even scarcer than that for resource status. Data on small-

scale and subsistence fisheries which were often critically important to local communities and contributions to national food budgets were particularly scarce, not to mention data on discarding practices or from recreational fisheries. It would be advantageous to incorporate information from local experts in such situations.

22. The Working Party stressed that there was a major need for more economic data in order to develop such fundamental descriptors as the value of fisheries and the cost of over-fishing. Unlike status and trends analyses for resources which were often undertaken at the regional level, most economic analyses were made at the national level, albeit applying standard methodologies (e.g. national economic accounts for fisheries) which allowed easy international comparison or combination of results. As for other statistics, economic data needed to be provided and exchanged according to agreed definitions, norms and standards, and in some cases (e.g. value of landings) standard definitions had not been established. This required some attention by the Coordinating Working Party on Fishery Statistics (CWP).

23. The Working Party recognized the essential need to aggregate data in order to develop the overall view which was so important to policy makers. The present FAO major fishing areas served this purpose and had the advantage that in many cases they were linked to governance as they corresponded to boundaries of regional fishery organizations. They were generally not totally appropriate, however, for consideration from other perspectives such as for ecosystem or environmental analyses for which it was necessary to aggregate the data in different ways (e.g. according to smaller or larger marine ecosystems).

24. The Working Party concluded that while the standard FAO aggregations were necessary, it was essential to have access to more spatially-disaggregated data which could allow alternative aggregations for different purposes. A more systematic linkage of FAO and regional fishery organization statistical datasets would greatly facilitate this.

## INFORMATION QUALITY STANDARDS AND PEER-REVIEW PROCESSES

25. These issues were introduced on the basis of documents ACFR:STF/99/5, Inf.4 and Inf.3. The objective of this agenda item was to review how status and trends in fisheries were prepared and reported, including the quality assurance methods that were used to support and corroborate a report's findings. The issue was considered at two levels: (a) at the level of original individual assessments by stock, fishery or locality; and (b) at the higher level through aggregation of individual assessments by major resource aggregate, by region or globally. The Working Party noted a range of key tests that should be applied to all reports, including questions related to: the scope, precision, accuracy and coverage of data; their timeliness and relevance; the appropriateness and acceptability of the analytical methods, along with alternative approaches; the procedures used for validation of the whole status and trends reporting process (transparency, inclusiveness, formalization and peer review); and their appropriate contextual presentation.

26. The criteria, definitions and methods for quality assurance were also reviewed (see table in Appendix D). The criteria for the process of report preparation should be that it was transparent, responsive, independent and consensual. The Working Party noted that methods outlined in the table for a consensual process might be difficult to implement. The criteria for the concluding results of reports should be that they were relevant, and that they were credible and quality-controlled, and also that the processes and the results should be subject to both internal and external peer review to the extent practicable.

27. In relation to the generation and communication of status and trends reports, it was recognized that at national, regional and international levels the process was most often founded on the efforts of Working Groups; and that this practice would continue, probably also being adopted beyond the long-established arrangements in the industrialized fisheries. Registration of the results of Working Groups, particularly at regional and international levels, would offer the best way of gathering reports for the global syntheses required for the preparation of SOFIA and other reports such as the Resource Reviews. However, it was noted that in many areas and for many fisheries status and

trends reports were the result of work by individuals, in some cases through reviewed journal publication but in many cases simply as documents lacking formal peer review. In these latter cases, such reports might be the only basis upon which management decisions were made. In some cases, a formal scientific basis for a report might also be entirely absent and the status and trend of a fishery might be based on educated guesses or non-formal analyses.

28. Working Groups offered a primary level of peer-review and their reports might also be validated by internal and external peer-review. In the absence of these, where un-reviewed individual reports were registered, the question of how to authenticate and use them as contributions to regional, ocean or global syntheses needed to be addressed further.

29. Approaches to the validation of status and trends reports (focusing on stocks) as contributions to SOFIA have hitherto been based on the professional and knowledgeable work of Fisheries Department staff and their extensive contacts. Following practice in other domains and in order to secure wider acceptance of its transparency and objectivity, it was recommended that a global review process be developed for two purposes, firstly to provide independent and objective support for the global reviews in SOFIA, and secondly to offer a mechanism for submission of reports to FIGIS. This might be developed and conducted through the appointment of a global panel on the basis of expertise, not on affiliation. Establishing such a panel should be considered as part of the proposed International Plan of Action (paragraph 50).

## **LINKAGES WITH LMR-GOOS**

30. The expert from IOC introduced this item on the basis of document ACFR:STF/99/6. The Living Marine Resources module of the Global Oceans Observing System (LMR-GOOS) was being planned under the auspices of IOC.

31. The plan was beginning to take shape for a system of sustained observations to fulfil scientific information needs for conservation and management of living marine resources. At this stage, the plan potentially included both observation of: (a) ecosystems, and (b) fishery resources and fisheries. The balance between (a) and (b) had yet to be determined. In any case, LMR-GOOS should coordinate its activity with FAO's status and trends reporting.

32. If LMR-GOOS emphasized ecosystem observations, then LMR-GOOS and FAO should cooperate to integrate ecosystem observations into status and trends reports (i.e. consider changes in ecosystems, in addition to effects of fisheries, to explain status and trends of fishery resources).

33. If LMR-GOOS included observations of fisheries and fishery resources, the system design should be based on existing FAO guidelines for such observations (e.g. FAO Fisheries Technical Paper No. 382, "Guidelines for the routine collection of capture fishery data"), and FAO and regional fishery bodies should have the responsibility for status and trends reporting.

## **COMMON TEMPLATES FOR REPORTING**

34. The Secretariat introduced this item on the basis of document ACFR:STF/99/4. A presentation was made of the prototype Fisheries Global Information System (FIGIS) and plans for its further development. The objectives of FIGIS were to raise awareness of policy issues relating to fisheries, to promote standards and improved practices in the conduct of fisheries and fisheries-related activities and to provide comprehensive and coherent fisheries information. It was stressed that these objectives could only be met through partnerships involving FAO and other UN agencies (e.g. IOC), regional fishery organizations and national centres of excellence, as a minimum. FIGIS would facilitate the structuring of information at different levels and synthesis of information moving up the levels so that global reporting at the top would accurately reflect the more detailed reporting at the regional level which, in turn, should be consistent with national and local reporting. FIGIS would also provide a facility for input of information by authorized users.

35. The Working Party welcomed the FIGIS development as an excellent initiative, and supported it in principle. For it to be successful, a partnership agreement was required which clearly specified obligations, responsibilities and entitlements of partners as well as the way in which the system was managed. Initially, development would concentrate on partnerships to facilitate status and trends reporting for fishery resources, but this would be extended later to other aspects of fisheries.

36. It was agreed in principle that where peer review processes have taken place in the institution "owning" the information, whether through working groups and/or a scientific committee, information provided by that institution should be considered as "peer reviewed". It was recognized that quality would vary among regions according to available data and analytical capacity and that the principle should be to make available the "best available scientific evidence" rather than try to apply uniform quality standards.

37. There was discussion as to whether historical reports on status and trends information should be archived in FIGIS or whether only the most recent reports should be available. The consensus view was that historical reports should be retained but that the partner "owner" of the information should decide what was needed to be kept or discarded.

38. The draft templates provided in document ACFR:STF/99/4 were discussed and generally accepted as covering the requisite information. It was suggested that more fields should cater for qualitative as well as quantitative information. It was agreed that they should be tested with fishery case studies and that it would be desirable for each regional fishery organization to test them with one or two examples.

## DEVELOPMENT OF PARTNERSHIIPS

39. The Secretariat introduced this item on the basis of documents ACFR:STF/99/4 and ACFR:STF/99/5. The beginnings of the development of FIGIS as a tool for assembling fishery status and trends reports (and other fishery information) was reviewed and accepted as an appropriate and practical mechanism for future work in this area. It was agreed that what was critical to the operational use of FIGIS was the commitment from fishery information sources to use it, to supply the information in the form required and to support its further development and acceptance.

40. In seeking to gain this commitment, the value of FIGIS to public, national, regional and international users needed to be addressed further. If it was seen as simply (or only) a mechanism for global aggregation then it was likely to satisfy only a small constituency, and therefore might not receive the full support needed to achieve an up-to-date, high quality, monitoring system on the status and trends of world fishery resources. The needs and commitments of the wider constituency should be addressed in that constitute partnerships, rather than simple membership. (Perhaps similar to the ASFA partnerships.)

41. Mechanisms already existed between States, between countries and their regional organizations and between regional organizations and FAO that could be drawn upon in defining the scope and nature of such partnerships. These might range from expressions of intent to formal memoranda of understanding. The capacities and needs of partners to supply and use information would need to be taken into account. As part of the International Plan of Action (Paragraph 50) it was recommended that the forms and objectives of partnerships be further investigated.

42. In terms of the practical implementation of FIGIS it was recommended that the development of the information submission mechanisms (templates) and the information use arrangements (user requirements and interface) of a range of potential partners, including NGOs, be investigated. Where capacities did not exist or were insufficient for some countries or regional organizations to participate (or where regional organizations did not exist), ways needed to be found to overcome these difficulties in line with the objectives of the Code of Conduct for Responsible Fisheries. These issues also formed part of the Action Plan.

## **COORDINATION WITH REPORTING TO COFI ON IMPLEMENTATION OF THE CODE OF CONDUCT**

43. The Secretariat when introducing this item on the basis of document ACFR:STF/99/5 noted that Article 4.1 of the Code of Conduct for Responsible Fisheries mandated FAO to monitor and report on the implementation of the Code at sessions of COFI. The first report was made at the Twenty-third Session of COFI in February 1999. The Working Party was informed that in receiving the report, the Committee underlined the need to clarify and simplify the national questionnaires to facilitate reporting on actions to implement the Code and particularly to provide for specific reporting on development of national plans and other actions called for in the three Plans of Action: on the Management of Fishing Capacity, the Conservation and Management of Sharks and on the Reduction of Incidental Catch of Seabirds in Longline Fisheries, adopted during the Session. The Working Party was further informed that COFI also requested that monitoring of the implementation of the Code needed to be result-oriented, indicating trends in or status of stocks and human benefits, and attempted to determine not just what was being done but also what problems were being encountered and what major constraints and issues remained.

44. The Working Party noted that COFI provided the central framework for collaboration that was indispensable for global fishery governance and that one of the Committee's tasks was to examine the world fisheries situation and strengthen international cooperation in fisheries. The Working Party acknowledged that regular reporting to COFI on the implementation of the Code of Conduct could be greatly enriched by the inclusion of fishery status and trends information derived from a more systematic synthesis of comprehensive information assembled from numerous sources, notably regional fishery bodies or arrangements, through partnerships and reviewed through appropriate processes.

45. The Working Party stressed the importance to develop indicators, particularly on pressure on the stocks, state of these stocks, and institutional response for most or all fisheries, including fisheries for which there was limited assessment capacity, to monitor stock condition, the environment, social and economic conditions and governance.

## **REPORTING MECHANISMS FOR AREAS WITHOUT REGIONAL FISHERY BODIES**

46. There were important regions that lacked regional fishery organizations with the capacity to serve as the focal point for status and trends reporting. In such regions, priority should be given to establishing working relationships with countries, institutions or experts in the region for gathering basic fishery data and information on status and trends, whether quantitative or qualitative. Some resources within areas covered by regional fishery organizations were not adequately monitored, and this applied particularly to coastal resources. FAO had a responsibility to pay particular attention to such cases.

## **CONCLUSION AND RECOMMENDATIONS**

47. The value and success of FAO's status and trends reporting was amply demonstrated by frequent reference to the reports by policy makers (e.g. delegates to COFI), stakeholders (both the fishing industry and environmental NGOs), and the public (i.e. media reports). Status and trends reports had, to a substantial degree, stimulated recent conservation and management initiatives, such as the FAO Code of Conduct for Responsible Fisheries, the UN Fish Stocks Agreement, application of the precautionary approach, and the International Plan of Action for Fishing Capacity. Status and trends reporting would play a critical role in evaluating the performance of these and other initiatives.

48. Owing to the importance of status and trends reports, and the scrutiny they received, the Working Party recommended that the global system of status and trends reporting be advanced by:

- increasing completeness by including some fisheries and fishery resources that were currently under-represented;

- expanding the scope of current reports which were primarily on catch and fishery resource information to include other dimensions of fisheries (e.g. reports on economic and social aspects); and
- enhancing quality assurance and credibility by (a) renewing commitment to collect and report fisheries data, conduct research, and build capacity, (b) greater involvement of regional experts, and (c) improving documentation, transparency, and peer review processes.

49. The Working Party endorsed FAO's recent development of an advanced Web-based fisheries information system for status and trends information (currently referred to as FIGIS) as a critical tool for advancing status and trend reporting.

50. An international plan of action to advance status and trends reporting on world fisheries should be prepared, including consideration of:

- steps to complete development of a status and trends information database (e.g. develop user requirements, functional and technical design specifications and conduct prototype testing using case studies and address information exchange and quality concerns);
- capacity building and arrangements for using FIGIS, including protocols addressing the quality of information to be included in the system;
- development of cost-effective methods for acquiring and validating information on the status and trends of small-scale fisheries and multispecies fisheries;
- an inventory of world fisheries and stocks;
- priority for expanding the scope of status and trends reporting;
- appropriate partnership arrangements with existing regional bodies, and other entities that could contribute useful scientific information, that specify roles and responsibilities;
- identification of needs and opportunities for new regional arrangements where appropriate arrangements did not now exist;
- practical guidelines for quality assurance incorporating peer review processes, with objective non-governmental scientific experts, into a system for status and trends reporting; and
- the role of local, regional, and global scientific working parties as a vehicle for status and trends reporting, capacity building, and quality assurance.

51. The Working Party stressed that development of the International Plan of Action to advance status and trends reporting should not delay initiatives that FAO was already taking, such as the development of FIGIS.

52. The status and trends reporting system foreseen by the Working Party should serve as a framework for status and trends reporting of additional indicators, in response to the need to monitor performance of recent and future international initiatives.

#### **FUTURE WORK OF THE WORKING PARTY**

53. The Working Party proposed to contribute to the further development of the International Plan of Action and on other issues for which it might be mandated by the ACFR, including the definition of terms of reference for any work to be conducted. The Working Party will:

- prepare a draft International Plan of Action for Fishery Status and Trends Reporting by June 2000 for consideration by ACFR before submission to COFI in February 2001;
- develop a draft partnership agreement following preparation of an initial draft by the Secretariat; and

- support, facilitate and contribute to the continued development of FIGIS along the lines already agreed, and through further investigations and implementation of practical measures to ensure the widest participation in the most appropriate manner. Members would analyse the implications of participation in FIGIS for their own organizations.

54. The Working Party would work initially by e-mail correspondence moderated by the Secretary, but a meeting might well be necessary during 2000.

#### **ADOPTION OF THE REPORT**

55. The report of the Working Party was adopted on 3 December 1999.



**APPENDIX A****AGENDA**

1. Opening of the Session
2. Appointment of Chairperson(s)
3. Adoption of the Agenda and Timetable
4. Current status and trends reporting by FAO, regional fishery bodies and other organizations
5. Data needs and availability
6. Information quality standards and peer-review processes
7. Linkages with LMR-GOOS
8. Common templates for reporting by stock, fishery or species including essential and optional elements for inclusion in FIGIS
9. Proposal for mechanisms and agreements for the involvement of regional fishery bodies and non-FAO experts in a consensus-seeking process for assembling, reviewing and disseminating fishery status and trends information
10. Coordination with reporting to COFI on Implementation of the Code of Conduct
11. Reporting mechanisms for areas without regional fishery organizations
12. Future work of the Working Party
13. Other matters
14. Adoption of the Report

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**LIST OF DOCUMENTS****Main documents**

- ACFR:STF/99/ 1      Agenda and Timetable
- 2      Current reporting: FAO's Global Perspective
- 3      Current Reporting: national, regional and international organizations
- 4      Proposals for information sharing and global research communication  
- A database for users
- 5      A Multifaceted Approach to Fishery Status and Trends Reporting
- 6      The Living Marine Resources Module of the Global Ocean Observing  
System (GOOS)

**Information Documents****ACFR:STF/99/Inf.**

1.      List of Documents
2.      List of Participants
3.      General issues in relation to status and trends reporting on fisheries
4.      Data and analysis issues: meeting standards, information quality and  
accessibility
5.      Background and reference documents

**TABLE OF CRITERIA, DEFINITIONS AND METHODS: A FRAMEWORK FOR FISHERIES SCIENCE QUALITY ASSURANCE**

	<i>Definition</i>	<i>Methods</i>
The PROCESS should be:		
<b>Transparent</b>	The process, rules and procedures are well-defined and public knowledge.	<ul style="list-style-type: none"> <li>• Tender rules</li> <li>• Statutory arrangements</li> <li>• Institutional publishing</li> </ul>
<b>Responsive:</b>	Timely and flexible to changing needs, while ensuring best practice.	<ul style="list-style-type: none"> <li>• Tasks should be well-defined and timely</li> <li>• Request should be appropriate, feasible and reasonable.</li> </ul>
<b>Independent</b>	Scientifically objective and free from sectoral influence by government, industry, or advocacy groups.	<ul style="list-style-type: none"> <li>• Open access to data, methods, raw results (including measures of uncertainty and risk).</li> <li>• Clear method demonstrable in the integration and presentation of summary advice.</li> </ul>
<b>Consensual</b>	Reports on the process should include any alternate views, incorporated as additional uncertainties to the general mathematical or conceptual uncertainties.	<ul style="list-style-type: none"> <li>• Rules of procedure require no 'minority', externally published reports.</li> <li>• Sufficient time given to reach consensus.</li> </ul>

The RESULTS should be:

<b>Integrated</b>	All issues are considered in or enter into the scientific procedures, including environmental, ecosystem, economic and social issues, as appropriate.	<ul style="list-style-type: none"> <li>• Research into and the application of holistic assessment methods.</li> <li>• Time set aside for scientists to undertake theoretical research, in methods, in particular modelling and simulation.</li> </ul>
<b>Credible</b>	Scientifically accurate within the limits of knowledge (methods and data) from respected scientists, and reflecting practical reality.	<ul style="list-style-type: none"> <li>• Good data, appropriate to the task.</li> <li>• Acceptance by scientists of the socio-economic dimensions of the fishery.</li> <li>• Training.</li> <li>• Theoretical research.</li> </ul>
<b>Quality Controlled</b>	Procedural error-detection at appropriate times/stages.	<ul style="list-style-type: none"> <li>• Process for quality control established externally to the 'group'.</li> </ul>

The PROCESS and the RESULTS should be subject to:

<b>Internal peer review</b>	Method for conducting procedural quality control and first review of results.	<ul style="list-style-type: none"> <li>• Institutional mechanism established for formal/scheduled quality control activities by non-tasked expert and informed non-experts.</li> </ul>
<b>External peer review</b>	Process and results conform to the highest international standards.	<ul style="list-style-type: none"> <li>• Include the best scientists, and others, as appropriate, external to the institution, state or region.</li> </ul>

The Advisory Committee on Fisheries Research (ACFR) Working Party on Status and Trends of Fisheries met in Rome from 30 November to 3 December 1999 to consider how fishery status and trends reporting could be improved in terms of quality, scope and timeliness and better coordinated to allow a more systematic synthesis of information from national to regional and global levels.

Owing to the importance of status and trends reports, and the scrutiny they receive, the Working Party recommended that the global system of status and trends reporting be advanced by: increasing completeness by including some fisheries and fishery resources that are currently under-represented; expanding the scope of current reports that are primarily on catch and fishery resource information to include other dimensions of fisheries (e.g. reports on economic and social aspects); and enhancing quality assurance and credibility. The Working Party endorsed FAO's recent development of an advanced Web-based fisheries information system for status and trends information (currently referred to as FIGIS) as a critical tool for advancing status and trend reporting.

The Working Party further recommended that a draft International Plan of Action to advance status and trends reporting on world fisheries be prepared, which would include an improved process, and identify roles, responsibilities and actions for States, international organizations and others in fishery status and trends reporting.

